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NIDA supports development of combined anti-heroin and HIV vaccine

Innovative dual-vaccine proposal wins 2012 Avant-Garde Award for Medications Development

Dr. Gary R. Matyas has been selected the 2012 recipient of the NIDA Avant-Garde Award for Medications Development. Matyas proposes to develop an effective, safe and easily manufactured combination anti-heroin/HIV vaccine that could treat heroin addiction while at the same time prevent HIV infection in those receiving the vaccine. Matyas will receive \$1,000,000 per year for five years to support his research. He works at the Walter Reed Army Institute of Research (WRAIR) in Silver Spring, M.d. The National Institute on Drug Abuse (NIDA), part of the National Institutes of Health, announced the award today.

“This highly innovative dual-vaccine model would simultaneously address the intertwined epidemics of heroin abuse and HIV,” said NIDA Director Dr. Nora D. Volkow. “This is precisely the type of ground-breaking research NIDA’s Avant-Garde program was designed to support. The implications for public health are enormous.”

The proposal stems from an existing research collaboration between NIDA and the U.S. Military HIV Research Program, part of the WRAIR. In 2010, the two organizations entered into an agreement to create a combination anti-heroin/HIV vaccine. The goal was to build upon previous preclinical research indicating that hapten-based anti-drug vaccines—in which a small molecule chemically similar to a drug of abuse (hapten) is bound to a protein carrier to induce an immune response—showed promise against a variety of abused drugs, including heroin. As a result of this collaboration, the heroin component of a combination anti-heroin/HIV vaccine has now been created and is ready for optimization and advanced preclinical testing. This current grant award will support this next phase of research and development. The award will be administered through the Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. and work done in collaboration with the U.S. Military HIV Research Program and NIDA.



Dr. Gary R. Matyas

“Heroin use is strongly associated with a high risk of HIV infection and represents an increasingly important worldwide health problem,” stated Matyas. “The possibility of creating a combination heroin-HIV vaccine provides an important opportunity to address both a unique

treatment for heroin abuse as well as continuing the quest to develop an effective preventive HIV vaccine.”

This research competition is an extension of NIDA’s [Avant-Garde Award for Innovative HIV/AIDS Research](http://grants.nih.gov/grants/guide/rfa-files/RFA-DA-12-010.html), now in its fifth year. Both competitions are intended to stimulate high-impact research that may lead to groundbreaking opportunities for the prevention and treatment of drug abuse. For further information about NIDA’s Avant-Garde Award for Medications Development, please visit <http://grants.nih.gov/grants/guide/rfa-files/RFA-DA-12-010.html>.

A statement from the NIDA Director on NIDA’s commitment to vaccine development can be found at www.nida.nih.gov/about/welcome/Messagenicvax2.html.

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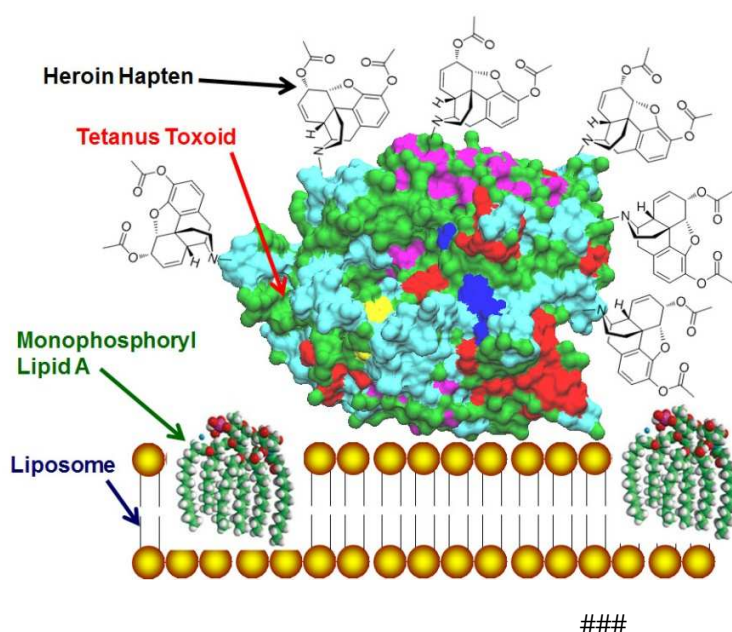


Diagram of the heroin vaccine portion of the heroin-HIV vaccine. The heroin-haptens are attached to tetanus toxoid mixed with liposomes containing phosphoryl lipid A, which is potent adjuvant formulation used to induce high titer antibodies to heroin. Image courtesy Dr. Gary R. Matyas

The National Institute on Drug Abuse is a component of the National Institutes of Health, U.S. Department of Health and Human Services. NIDA supports most of the world’s research on the health aspects of drug abuse and addiction. The Institute carries out a large variety of programs to inform policy and improve practice. Fact sheets on the health effects of drugs of abuse and information on NIDA research and other activities can be found on the NIDA home page at www.drugabuse.gov, which is now compatible with your smartphone, iPad or tablet. To order publications in English or Spanish, call NIDA’s DrugPubs research dissemination center at 1-877-NIDA-NIH or 240-645-0228 (TDD) or fax or email requests to 240-645-0227 or drugpubs@nida.nih.gov. Online ordering is available at <http://drugpubs.drugabuse.gov>. NIDA’s media guide can be found at <http://drugabuse.gov/mediaguide/>, and its new easy-to-read website can be found at www.easyread.drugabuse.gov.

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